	PE	Application Number	09/850,301
	O``` TRANSMITTAL	Filing Date	May 7, 2001
	AUG \$ 5 2006 FORM	Inventor(s)	Mark A. Terrible
12	(to be used for correspondence after initial filing)	Group Art Unit	2141 /
18	(to be used for correspondence after initial filing)	Examiner Name	Le H. Luu
		Attorney Docket Number	129250-002069/US

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Individual name	TRADENIAM LA	W FIRING PLLC	JOHN L. CUITIII		<u> </u>			
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FEE TRANSMITTAL	Application Number	09/850,301	/ E
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Name (Print/Type)	John E. Curtin	11/1/18	Registration No. (Attorney/Agent)		37	7,602		Telephone	(703) 266-3330					
Signature		1122						Date	August 25, 2006					

Application No.:

09/850,301

Filing Date:

May 7, 2001

Applicant:

Mark A. Terrible

Group Art Unit:

2141

Confirmation No: 2198

Examiner:

Le Hein Luu

Title:

TECHNIQUE FOR ANALYZING INTERNET TRAFFIC TO

SELECT HOT SPOTS

Attorney Docket: 129250-002069/US

APPLICANT'S BRIEF ON APPEAL

MAIL STOP APPEAL BRIEF - PATENTS

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August 25, 2006

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APPELLANT'S BRIEF ON APPEAL U.S. Application No.: 09/850,301 Atty. Docket: 129250-002069/US

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I. REAL PARTY IN INTEREST:

The real party in interest in this appeal is Lucent Technologies Inc.

Assignment of the application was submitted to the U.S. Patent and Trademark

Office and recorded at Reel 011807, Frame 0281.

II. RELATED APPEALS AND INTERFERENCES:

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board's decision in this Appeal.

III. EVIDENCE SUBMITTED UNDER CFR 1.130, 1.131, OR 1.132: None.

IV. DECISIONS RENDERED BY THE COURT OR THE BOARD IN RELATED APPEALS AND INTERFERENCES: None.

V. STATUS OF CLAIMS:

Claims 1-20, 22-31 and 33-42 are pending in the application. Claims 1, 6, 16 and 27 are written in independent form.

Claims 1-20, 22-31 and 33-36 were objected to based on an informality. Claims 1-20, 22-31 and 33-42 have been finally rejected under 35 U.S.C. §103(a). Claims 1-20, 22-31 and 33-42 are being appealed.

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VI. STATUS OF AMENDMENTS:

A Request For Reconsideration ("Request") was filed on May 30, 2006. In

an Advisory Action dated June 21, 2006 ("Advisory") the Examiner stated that

the Request was considered; however, the Request did not place the application

in condition for allowance.

SUMMARY OF CLAIMED SUBJECT MATTER: VII.

Overview of the Subject Matter of the Independent Claims (i)

In general, the present invention is directed at methods and devices for

caching Internet site names. Each method and device makes use of a table that

contains both "replaceable" (e.g., least frequently used Internet site names) and

"irreplaceable" (e.g., most frequently used Internet site names) entries.

(a) Claim 1

More specifically, independent claim 1 is directed to a caching method

that includes the steps of (see for example the Specification p.2, ll. 8-12; p.3, ll.

7-9; p.5, ll. 13-25; and Figs. 1 and 2):

receiving an Internet site name; (a)

storing the Internet site name in an entry of a table having n (b)

entries if the Internet site name is not in the table;

counting the number of times the Internet site name has been (c)

received, and if the Internet site name is new and the table is full, selecting an

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entry from a set of replaceable entries in the table, where the table includes both replaceable and irreplaceable entries;

replacing the selected entry with the new entry; and (d)

caching a resource corresponding to at least one of a most (e)

frequently used Internet sites r where $r \le n$.

(b) Claim 6

Similarly, independent claim 6 is directed at an apparatus for caching resources of r most frequently used Internet site names comprising (see for example the same Specification cites as claim 1 plus p.6, ll. 22-23; p.6, l. 29 to p. 7, 1. 4; and Figs. 1,2 and 5):

a memory for storing a table having n entries where $n \ge r$, where r

is the number of most frequently used Internet sites and each entry comprises

a name field; and

a processor for performing the steps set forth in claim 1, parts (a) (b)

through (d).

(c) Claim 16

Independent claim 16 is also directed at an apparatus for caching resources of r most frequently used Internet site names, the apparatus comprising (see for example the Specification p. 5, l. 26 to p.6, l. 19; p.8, ll. 19

to 29; Figs. 1 and 3-7; as well as the cites from claims 1 and 6):

a receiver for receiving an Internet site name; (a)

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(b) a processor for converting the Internet site name into a hash

number and storing the number into an entry in a table; and

a memory for storing the table having n entries where $n \ge r$, where (c)

r is the number of most frequently used Internet site names, each entry in the

table comprising a number field for the number, a name field for the Internet

site name and a count field for counting the number of times the Internet site

name is received, wherein

the processor further selects an entry from a set of replaceable

entries in the table if the table is full and the number is not in the table and

replaces the selected entry with the hash number entry according to the value

of the count field of each entry the table including both replaceable and

irreplaceable entries.

(d) Claim 27

Finally, independent claim 27 is directed at a computer readable medium

having computer program logic recorded thereon for building a table to select r

most frequently used Internet site names, the computer program logic

comprising program code segments that control functions similar to those set

forth in claim 16, parts (a) through (d) (see the Specification excerpts cited with

respect to claim 1, 6 and 16 above as well as Figs. 1, and 3-7).

In order to make the overview set forth above concise, and thus useful to

the members of the Board, the Appellant notes that the disclosure that has

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APPELLANT'S BRIEF ON APPEAL U.S. Application No.: 09/850,301

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been included, or referred to, above represents only a portion of the total disclosure set forth in the Specification that supports the independent claims.

The Remainder of the Specification Also Supports the Claims (ii)

The Appellant notes that there may be additional disclosure in the Specification that also supports the independent and dependent claims. Further, by presenting the disclosure above the Appellant does not represent that this is the only evidence that supports the independent claims nor does Appellant necessarily represent that this disclosure can be used to fully interpret the claims of the present invention. Instead, this disclosure is an overview of the claimed subject matter.

VIII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

Appellant seeks the Board's review and reversal of the Examiner's: (1) objections to claims 1-20, 22-31 and 33-36; and (2) rejection of claims 1-20, 22-31 and 33-42 under 35 U.S.C. §103(a).

IX. ARGUMENTS:

The Informality Objections **A.**)

In the Final Office Action claims 1-20, 22-31 and 33-36 were objected to, the Examiner requesting that the Appellant replace the words "Internet site"

1

with the words ---Internet site name---. In the Request submitted on May 30,

2006 the Appellant pointed out that it appeared that the claims already

included these changes. Nonetheless, the Appellant asked the Examiner to

point out those claims that still needed to be changed. As of this date the

Appellant has not received a communication from the Examiner. Thus, the

Appellant presumes these objections have been withdrawn.

B.) The Section 103 Rejections

Claims 1-15 and 37-40 were rejected under 35 U.S.C. §103(a) as being

unpatentable over Peercy et al., U.S. Patent No. 5,960,429 ("Peercy") in view of

Doyle, U.S. Patent Publication No. 2002/0099807 ("Doyle") and in further view

of U.S.Patent No. 6,826,652 ("Chauvel"). Claims 16-20, 22-31, 33-36 and 41-

42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Peercy, in

view of Doyle and in further view of Swildens, U.S. Patent Publication No.

2001/0034772 ("Swildens"). Appellant respectfully disagrees for at least the

following reasons.

Claims 1-15 and 37-40 (i)

As the Appellant pointed out in his Request, the Examiner does not

appear to have addressed the shortcomings of Chauvel raised by the Appellant

in his previous responses. In the Advisory, the Examiner appears to be taking

the position that he does not have to address the shortcomings of Chauvel

because, in the Examiner's opinion, the Appellant is arguing features that are

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not present in the claims. The Appellant notes that the Examiner does not

point out what claims or what features the Examiner is referring to in the

Advisory, so, the Appellant is left to guess that the Examiner is referring to

claims 1-15 and 37-40 as well as to Chauvel.

Turning to the shortcomings of Chauvel, it does not disclose or suggest

the selection of an entry from a set of replaceable entries in a table, where the

table includes both replaceable and irreplaceable entries as in claims 1-15 and

37-40. While Chauvel appears to disclose some type of irreplaceable entry (e.g.,

Chauvel's "locked entries") it does not disclose or suggest replaceable entries.

Further, Chauvel explicitly states that a cache system that uses such locked

entries is undesirable because it further reduces the efficiency of a cache. Said

another way, Chauvel explicitly teaches away from using irreplaceable entries

to operate a cache.

The feature of a table that includes both replaceable and irreplaceable

entries is clearly set forth in the claims and specification. Thus, the Appellants

submit that he Examiner is duty bound to respond to the Appellant's positions

regarding Chauvel.

Because the Examiner has not done so, the Appellant presumes that his

position is persuasive and, accordingly, respectfully requests that the members

of the Board reverse the decision of the Examiner and allow claims 1-15 and

37-40.

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(ii) Claims 16-20, 22-31, 33-36, 41 and 42

Regarding claims 16-20, 22-31, 33-36, 41 and 42 the Appellant

initially notes that each of these claims also includes the feature of a table that

includes both replaceable and irreplaceable entries and that Swildens does not

make up for the deficiencies of Peercy or Doyle set forth above. That is,

Swildens does not disclose a table which includes both replaceable and

irreplaceable entries as in claims 16-20, 22-31, 33-36, 41 and 42.

(iii) Claims 38, 40 and 42

With respect to claims 38, 40 and 42 the Appellant initially notes that

these claims depend on claims 1, 6 or 16 and are allowable over Peercy

combined with Doyle and Swildens for the reasons set forth above.

In addition, each of these claims includes the feature of an audio file,

cached resource. In the Final Office Action the Examiner takes the position

that an excerpt from Peercy (column 2, lines 19-31) discloses a "multimedia

file' which, in turn, is a disclosure of the claimed audio file. However, this

excerpt from Peercy is totally silent with respect to either a multimedia or audio

file. Instead, this excerpt discusses "bookmarking' of URLs of web sites. There

is no mention or suggestion of a cached audio file.

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X. CONCLUSION:

For the reasons stated above, the Appellants respectfully request that the members of the Board reverse the Examiner's rejections and allow claims 1-20, 22-31 and 33-42.

XI. EVIDENCE APPENDIX

None.

XII. RELATED PROCEEDINGS APPENDIX

None.

Respectfully submitted,

Capitol Patent & Trademark Law Firm, PLLC

By:

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APPELLANT'S BRIEF ON APPEAL U.S. Application No.: 09/850,301

Atty. Docket: 129250-002069/US

APPENDIX A

CLAIMS APPENDIX

LISTING OF CLAIMS

1. A caching method comprising the steps of:

(a) receiving an Internet site name;

(b) storing the Internet site name in an entry of a table having n

entries if the Internet site name is not in the table;

(c) counting the number of times the Internet site name has been

received, and if the Internet site name is new and the table is full, selecting an

entry from a set of replaceable entries in the table, where the table includes

both replaceable and irreplaceable entries;

(d) replacing the selected entry with the new entry; and

(e) caching a resource corresponding to at least one of a most

frequently used Internet sites r where $r \le n$.

2. The method of claim 1 wherein the Internet site name is a URL

(Uniform Resource Locator).

3. The method of claim 1 wherein each entry of the table has a name

field for storing the Internet site name and a count field for storing the number

of times the Internet site name has been received.

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4. The method of claim 3 further comprising the step of retrieving r most frequently used Internet site names according to the value of the count field of each entry.

- 5. The method of claim 1 wherein if the table is full and the Internet site name is not in the table, replace one of the q least frequently used entries according to the value of the count field of each entry.
- 6. An apparatus for caching resources of r most frequently used Internet site names comprising:
- (a) a memory for storing a table having n entries where $n \ge r$, where r is the number of most frequently used Internet sites and each entry comprises a name field; and
 - (b) a processor for,

receiving an Internet site name,

storing the Internet site name into the name field of an entry in the table,

selecting an entry from a set of replaceable entries in the table if the table is full and the Internet site name is not in the table, where the table

includes both replaceable and irreplaceable entries; and

replacing the selected entry with the Internet site name entry.

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7. The apparatus of claim 6 wherein the Internet site name is a URL

(Uniform Resource Locator).

The apparatus of claim 6 wherein if the table is full and the 8.

Internet site name is not in the table, the processor randomly selects one of q

at least frequently used entries for replacement from the set of replaceable

entries.

9. The apparatus of claim 6 wherein if the table is full and the

Internet site name is not in the table, the processor replaces the least

frequently used entry among q least frequently used entries from the set of

replaceable entries.

10. The apparatus of claim 6 wherein each entry in the table further

comprises a count field for storing the number of times the associated Internet

site name in the entry has been received.

11. The apparatus of claim 10 wherein if the Internet site name is in

one of the entries, the processor increments the value of the count field.

The apparatus of claim 11 wherein the processor sorts the entries 12.

in the table into an order according to the value of the count field of each entry.

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The apparatus of claim 12 wherein the order is descending, 13.

whereby the r most frequently used Internet site names are in the first r

entries.

The apparatus of claim 12 wherein the sorting method is a bubble

sort method.

The apparatus of claim 10 wherein the processor retrieves the r 15.

most frequently used Internet site names from the top r entries according to

the value of the count field of each entry.

An apparatus for caching resources of r most frequently used

Internet site names, the apparatus comprising:

a receiver for receiving an Internet site name; (a)

a processor for converting the Internet site name into a hash (b)

number and storing the number into an entry in a table; and

a memory for storing the table having n entries where $n \ge r$, where (c)

r is the number of most frequently used Internet site names, each entry in the

table comprising a number field for the number, a name field for the Internet

site name and a count field for counting the number of times the Internet site

name is received, wherein

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(d) the processor further selects an entry from a set of replaceable

entries in the table if the table is full and the number is not in the table and

replaces the selected entry with the hash number entry according to the value

of the count field of each entry the table including both replaceable and

irreplaceable entries.

17. The apparatus of claim 16 wherein the Internet site name is a URL

(Uniform Resource Locator).

18. The apparatus of claim 16 wherein if the number is in one of the

entries, the processor increments the value of the count field.

19. The apparatus of claim 16 wherein the processor retrieves the r

most frequently used Internet site names from the top r entries according to

the value of the count field of each entry.

20. The apparatus of claim 16 wherein the processor sorts the entries

in the table into an order according to the value of the count field of each entry.

(Cancelled) 21.

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22. The apparatus of claim 16 wherein if the number is not in the table

and the table is not full, the processor stores the number and the Internet site

name in the respective fields of an empty entry.

23. The apparatus of claim 16 wherein if the number is in an entry

and the value of the count field of that entry is greater than a threshold, the

processor stores the Internet site name in that entry.

24. The apparatus of claim 16 wherein if the table is full and the

number is not in the table, the processor randomly selects one of the q least

frequently used entries for replacement from the set of replaceable entries.

25. The apparatus of claim 16 wherein if the table is full and the

number is not in the table, the processor replaces the entry with the smallest

value of the count field among q least frequently used entries from the set of

replaceable entries.

26. The apparatus of claim 16 wherein the table comprises q sub-

tables where n>q>1, each sub-table has n/q entries and pointed to by an

address ranging from 0 to q-1, the number is searched or stored in the sub-

table pointed to by the address produced by taking a modulo operation on the

number by q, if the sub-table is full and the number is not in the sub-table, the

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processor replaces one of the bottom m/q entries according to the value of the

count field of each entry, and retrieves the r most frequently used Internet site

names from the top r entries among the q sub-tables according to the value of

the count field of each entry.

A computer readable medium having computer program logic

recorded thereon for building a table to select r most frequently used Internet

site names, the computer program logic comprising:

a computer program code segment for receiving an Internet site (a)

name;

a computer program code segment for converting the received (b)

Internet site name into a hash number;

a computer program code segment for storing the number in the (c)

table having n entries where $n \ge r$, each entry in the table comprising a number

field for the number, a name field for the received Internet site name and a

count field for counting the number of times the Internet site name has been

received, wherein

the computer code segment for storing further selects an entry (d)

from a set of replaceable entries in the table if the table is full and the number

is not in the table and replaces the selected entry with the new entry according

to the value of the count field of each entry the table including both replaceable

and irreplaceable entries.

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The computer readable medium of claim 27 wherein the received 28.

Internet site name is a URL (Uniform Resource Locator).

The computer readable medium of claim 27 wherein if the number 29.

is in one of the entries, the storing computer program code segment increments

the value of the count field.

The computer readable medium of claim 27 wherein the logic 30.

further comprises a computer program code segment for retrieving the r most

frequently used Internet site names from the top r entries according to the

value of the count field of each entry.

The computer readable medium of claim 27 wherein the logic 31.

further comprises a computer program code segment for sorting the entries in

the table into an order according to the value of the count field of each entry.

(Cancelled) 32.

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The computer readable medium of claim 27 wherein if the number 33.

is in the table and the table is not full, the storing computer program code

segment stores the number and the received Internet site name in the

respective fields of an empty entry.

The computer readable medium of claim 27 wherein if the number 34.

is in an entry and the value of the count field in that entry is greater than a

threshold, the storing computer program code segment stores the received

Internet site name in the name field of that entry.

The computer readable medium of claim 27 wherein if the table is 35.

full and the number is not in the table, the storing computer program code

segment randomly selects one of q least frequently used entries for replacement

from the set of replaceable entries.

The computer readable medium of claim 27 wherein if the table is 36.

full and the number is not in the table, the storing computer program code

segment replaces the entry with the smallest received count among q least

frequently used entries.

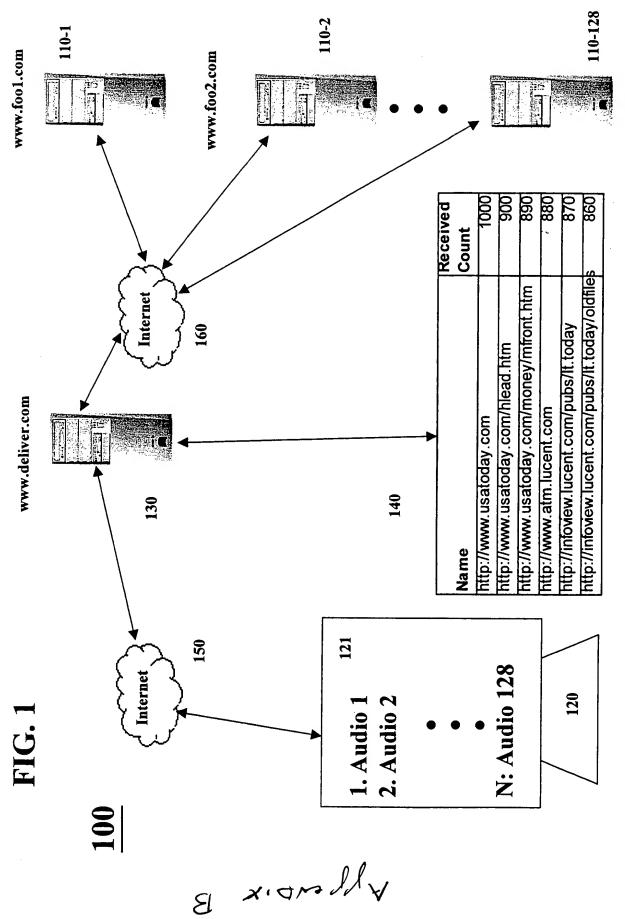
The method of claim 1 wherein the cached resource is a Hypertext 37.

Markup Language (HTML) file.

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- 38. The method of claim 1 wherein the cached resource is an audio file.
- 39. The apparatus of claim 6 wherein the resources include an HTML file.
- 40. The apparatus of claim 6 wherein the resources include an audio file.
- 41. The apparatus of claim 16 wherein the resources include an HTML file.
- 42. The apparatus of claim 16 wherein the resources include an audio file.



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Received	1000	900	890	880	870	860	850	800	780	760	740	720	710	700	009	200	400	300	200
name	http://www.usatoday.com	http://www.usatoday.com/hlead.htm	http://www.usatoday.com/money/mfront.htm	http://www.atm.lu	http://infoview.lucent.com/pubs/lt.today	http://infoview.lucent.com/pubs//ttoday/oldfiles/year.2001/LT.2001.085.htm	http://infoview.lucent.com/pubs/lt.today/oldfiles/year.2001/LT.2001.082.htm	http://infoview.lucent.com/pubs/It.today/oldfiles/year.2001/LT.2001.081.htm	http://infoview.lucent.com/pubs/It.today/oldfiles/year.2001/LT.2001.079.htm	http://infoview.lucent.com/pubs/lt.today/oldfiles/year.2001/LT.2001.078.htm	http://infoview.lucent.com/pubs/lt.today/oldfiles/year.2001/LT.2001.077.htm	http://www.astro.umd.edu/~fleming/latest_news.html	http://www.astro.umd.edu/~fleming	http://www.astro.umd.edu/~hcohen/FAQ.html	http://cdd.dnrc.bell-labs.com	http://cdd.dnrc.bell-labs.com/town.html	http://cdd.dnrc.bell-labs.com/resources.html	http://cdd.dnrc.bell-labs.com/technology.html	http://cdd.dnrc.bell-labs.com/documents.html
Base 16 hashed number	483a24a9	27a0b8c	a3338111	94c1af05	37a7dc4c	6215a6d1	75fda6d1	7df5a6d1			6df1b2d1			32073b0e	dfbf950a	267ce247	8e15b8dc	fa2465bb	h20 e7206159
(epla	<u></u>		(PS	P P P	P 8	Р	h10	h11	h12	$rac{1}{\sqrt{\frac{1}{2}}}$	h14	h15	h16	h17	h18	h19	P70

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FIG. 4

```
401 unsigned long name_hash(const char *p)

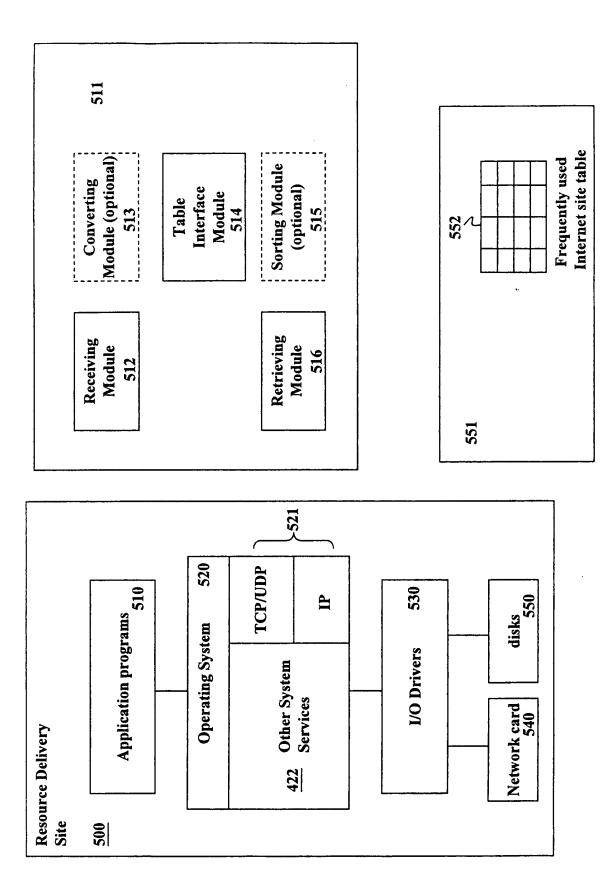
{
402 unsigned long h = 0;
403 unsigned int m;
404 while(*p) {
405 m = *p++;
406 m = m ^ m << 1;
407 m = m ^ m << 2;
408 m = m ^ m << 4;
409 h = m ^ ((h >> 9) | (h << 23));
}

410 return h;
```

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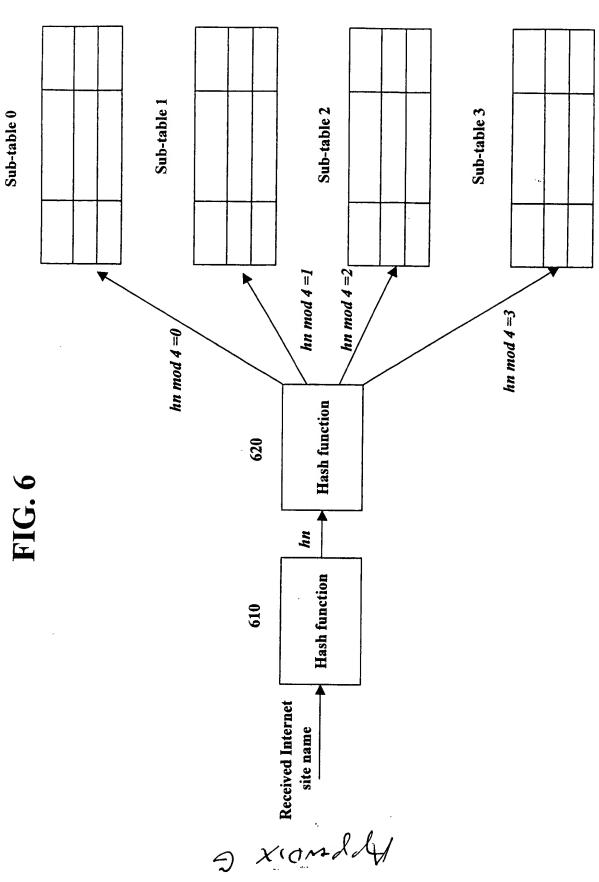
r c

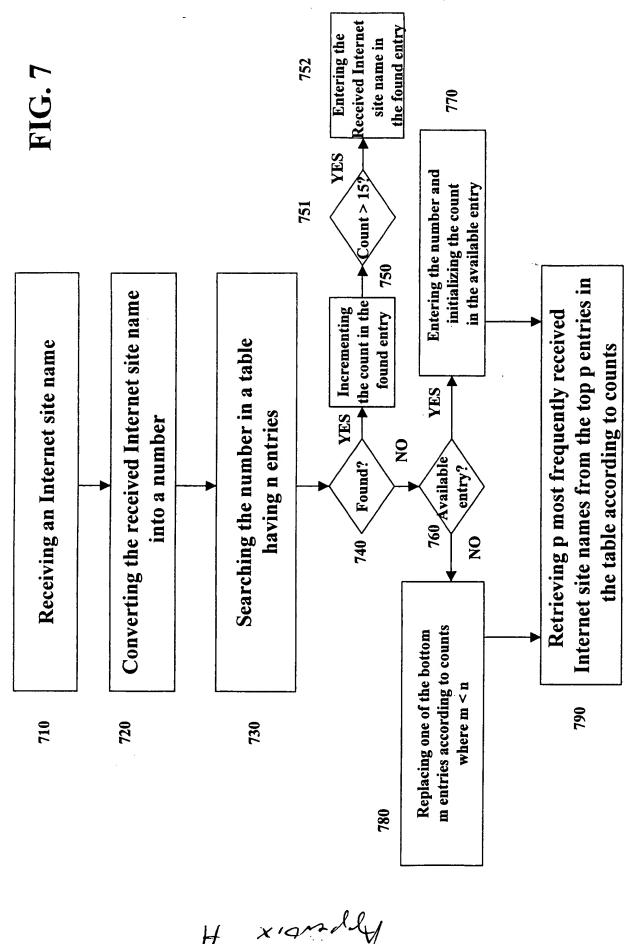
FIG. 5



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